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SAPC 17875
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July 18, 1957

DUKE
ERNIE

25X1A

To: [redacted] RSP (3)

25X1A

cc: [redacted]

Fro[redacted]

Subject: Reply to Your Report of 11 June 1957
Info: Headquarters

File A-101
T+P

The following comments apply to the items listed in the subject report:

2. Production has been notified of the oversight.

3. Production specifications require a sensitivity greater than 10 microvolts. If sensitivity lower than this is encountered, it must be due to deterioration following transit. Your procedure in restoring sensitivity to acceptable values is to be commended. The effect of the bottom cover on spurious lock-on mentioned in your report has not been noticed here.

4. Drawing No. 50406037 does not give an adequate call-out for this relay, and as a consequence, the 6-volt version which is kept in stock was used inadvertently. The production test which involves this relay takes relatively little time, hence the overheat was not noticed during test. An engineering change is being prepared to remedy the inadequate call-out.

5. We apologize.

6. The use of the "Littel-switch" No. 201 is not recommended because it is a jack-type with open contacts, and hence

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does not meet MIL spec requirements. If momentary operation is desired, the recommended switch would be a Kulka type ST42C. On this point, engineering does not seem convinced that the permanent use of the momentary type switch will serve the best purpose on a general basis, since the present type of switch was used to help assure sufficient time for recycling.

7. The purpose in limiting the second L-O injection was two-fold. Primarily, its purpose was to prevent the generation of excessive harmonics by the second mixer due to overdrive by the second L-O injection voltage, which was found to occur. A similar affect, as far as the above usefulness of the limiting is concerned, can be obtained by reducing the injection voltage to the proper level, if it is found to be excessive, by means of capacitive shunting. However, this would have to be done on an individual assembly basis, an undesirable condition from the standpoint of production and maintenance, hence the use of limiting. Further tests would have to be conducted to determine the actual degree to which the limiting action itself does generate harmonics.

8. A tenth position on the oscillator selector switch, providing an "off" position, can be obtained by removing one of the stops on the switch detent plate. This would involve disassembling the HF oscillator crystal turret from the shield box. If disabling the HF oscillator constitutes the basic objective, Bob Schlesinger recommends that the function generator switch be placed in the "off" position as a means of accomplishing this purpose.

9. The sweep width calibrate control was arranged for screwdriver adjustment to minimize the possibility of accidental disturbance of the setting during the test procedure. Although your point is well taken, your reconsideration of this problem is invited in view of the fact that, for a basic design principle, we were requested by the customer to keep to a minimum the number of adjustable controls so that in those instances where personnel were not too well trained, inadvertent use of controls would not tend to impair the basic use of the instrument by such personnel.

10. Laboratory tests had indicated that the test set, operated for several hours, showed no excessive component temperatures. Thus no provision for forced cooling was provided. However, the possibility was not overlooked, and a place was left where a fan could be installed if the need so arose. If your further comments so indicate, a fan will be procured, and will be sent to you with installation instructions.

11. Your idea seems to be a good one. The only comment here is that the B+ on the monitor amplifiers, with no filament voltages, left on during the flight would tend to cause some of the B+ filter condensers to operate close to their ratings for protracted periods of time. Whether this proves to be deleterious in practice can only be substantiated by application.

12. Engineering does not understand the problem in the present cable length, which appears to be satisfactory with the J-box mounted on the bottom cover as indicated in drawing

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No. 50406851. Since making new cables requires customer approval, would appreciate your further comments as to how unavoidable you feel this is.

13. Publications has been notified.

14. Engineering believes this problem does not occur in the unit presently being manufactured.

15. (1, 2, 3, 4) A good practical method for field use, however, in the laboratory we also include monitoring by a counter.

16. The audio level in receiver one is lower due to the notch filter. We are planning to remedy this, but have not yet done so.

17. Necessary changes are presently being executed.

18. Present fixtures being shipped appear to be correct, and it is possible that manufacturing error occurred.

Your comments have proven to be informative, and are highly appreciated.

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